



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/826,995	04/19/2004	Steven P. Floeder	59674US002	3492
32692 7590 06/26/2007 3M INNOVATIVE PROPERTIES COMPANY PO BOX 33427 ST. PAUL, MN 55133-3427			EXAMINER RUSH, ERIC	
			ART UNIT 2609	PAPER NUMBER
			NOTIFICATION DATE 06/26/2007	DELIVERY MODE ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

LegalUSDocketing@mmm.com
LegalDocketing@mmm.com

Office Action Summary	Application No.	Applicant(s)	
	10/826,995	FLOEDER ET AL.	
	Examiner	Art Unit	
	Eric Rush	2609	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 January 2006.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5,7-12,14,15 and 22-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5,7-12,14,15 and 22-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>See Continuation Sheet</u> . | 6) <input type="checkbox"/> Other: _____ |

Continuation of Attachment(s) 3). Information Disclosure Statement(s) (PTO/SB/08), Paper No(s)/Mail Date :27 July 2004; 30 July 2004; 18 October 2004; 2 January 2005; 17 August 2005; 9 May 2006; 9 May 2006; 15 May 2006; 5 December 2006; 5 December 2006.

DETAILED ACTION

Claim Objections

1. Claims 9 and 23 are objected to because of the following informalities: Claim 9 line 3 "potion" should be replaced with "portion" and claim 23 line 3 "anomolies" should be replaced with "anomalies". Appropriate correction is required.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 23 and 24 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

- Claims 23 and 24 are rejected to because claim 23 has an improper dependency because it is not dependent upon an appropriate preceding claim. Examiner will treat claim 23 as being dependent upon claim 22, and claim 24 as being dependent upon claim 23. Appropriate correction is required.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 9 – 12 and 14 – 15 are rejected under 35 U.S.C. 102(b) as being anticipated by Dante et al. U.S. Patent No. 5,365,596.

- With regards to claim 9: Dante et al. teach a system for marking a web of material, comprising: a fiducial marker for applying fiducial marks to the web (Dante et al Column 4 Lines 54 – 60); an inspection module for imaging at least a portion of a web to provide digital information (Dante et al. Column 4 Lines 22 – 32), processing the digital information with an initial algorithm to identify regions on the web containing anomalies (Dante et al. Figs 2c, Column 6 Lines 36 – 60), and recording positional information localizing the identified regions relative to the fiducial marks (Dante et al Column 4 Lines 37 – Column 5 Line 1); a fiducial reader for reading and providing localizing information from the fiducial marks (Dante et al. Column 4 Lines 37 – 53), a web marker for applying locating marks to the web (Dante et al. Column 10 Lines 32 – 43); a web marker controller for controlling the web marker so as to apply locating marks to the web identifying the position of a least some of the anomalies (Dante et

al. Column 10 Lines 32 – 43), using the positional information and the localizing information as a guide and wherein the fiducial marker (Dante et al. Column 4 Lines 54 – 60) and the inspection module are associated with a first webhandling apparatus (Dante et al. Fig. 1, Column 4 Lines 22 – 29, first the web has element 90, fiducial marks, periodically printed and the web goes through the inspection apparatus), and wherein the fiducial reader (Dante et al. Column 4 Lines 37 – 53) , the web marker (Dante et al. Column 10 Lines 32 – 43), and the web marker controller are associated with a second webhandling apparatus (Dante et al. Fig 1. Column 4 Lines 29 – 32, Column 10 Lines 32 – 43, the second webhandling apparatus comes from after inspection it is determined whether or not to mark the material and where to mark it in accordance with the synchronizing information).

- With regards to claim 10: the system according to claim 9. Dante et al. teach wherein the web marker applies locating marks identifying the position of only the anomalies that qualify as actual defects with respect to a contemplated end use of the web. (Dante et al. Column 10 Lines 25 – 43)
- With regards to claim 11: Dante et al. teach the system according to claim 10, wherein the inspection module extracts identified regions from the

digital information (Dante et al. Column 9 Lines 3 – 23), and wherein the system further comprises a processor associated with the web marker controller (Dante et al. Column 4 Lines 22 – 33) for analyzing the extracted identified regions with at least one subsequent algorithm to determine which anomalies represent actual defects with respect to the contemplated end use of the web. (Dante et al. Fig 2d, Column 10 Lines 3 – 24)

- With regards to claim 12: Dante et al. teach the system according to claim 11, and inherently teach wherein the inspection module stores or buffers the identified regions for the processor. This step is inherent since a comparison takes place between the instant image and the template images, which would require the identified regions being stored or buffered prior to comparison.
- With regards to claim 14: Dante et al. teach the system according to claim 9, wherein the web marker places locating marks on or adjacent to the anomalies whose position they identify. (Dante et al. Column 10 Lines 32 – 43)
- With regards to claim 15: Dante et al. teach the system according to claim 9, wherein the web marker places locating marks that are spaced in a

Art Unit: 2609

predetermined way from the anomalies whose position they identify.

(Dante et al. Column 10 Lines 32 – 43)

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

8. Claims 1 – 4 and 7 – 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dante et al. U.S. Patent No. 5,365,596 in view of Laussermair et al. U.S. Patent No. 6,137,967.

- With regards to claim 1: Dante et al. teach a method of analyzing the characteristics of a web of material, comprising: imaging at least a portion of a web to provide digital information (Dante et al. Column 4 Lines 46 – 53); processing the digital information with an initial algorithm to identify

Art Unit: 2609

regions on the web containing anomalies (Dante et al. Figs 2c, Column 6 Lines 36 – 60); placing fiducial marks on the web (Dante et al. Column 5 Lines 57 – 68); subsequent to the winding step, recording positional information localizing the identified regions relative to the fiducial marks (Dante et al Column 4 Lines 37 – Column 5 Line 1); and applying locating marks to the web identifying the position of at least some of the anomalies, using the positional information and the fiducial marks as a guide (Dante et al. Fig. 4, Column 10 Lines 32 – 43). Dante et al. fail to teach winding the web onto a roll. Laussermair et al. teach winding the web onto a roll. (Laussermair et al. Column 3 Lines 41 - 44) It would have been obvious to one of ordinary skill in the art at the time of the invention to include the teachings of Laussermair et al. with the invention of Dante et al. This modification would have been prompted because the invention of Dante et al. is directed toward high-speed inspection of continuously moving paper or paperboard web and Laussermair et al. disclose a verification and tracking system for paper and documents which are unwound, printed on, and then re-wound. This combination would have been provoked to allow for the system of Dante et al. to print fiducial marks on the web prior to the web being wound and the inspection step occurring.

- With regards to claim 2: Dante et al. in view of Laussermair et al. teach the method according to claim 1. Dante et al. teach wherein the position of

only the anomalies that qualify as actual defects with respect to the contemplated end use of the web are identified with locating marks.

(Dante et al. Column 8 Line 63 – Column 9 Line 2 and Column 10 Lines 32 - 43, Dante et al. disclose the thresholds used for accepting and rejecting the web being adjustable by the operator. The adjustability of the threshold values teaches that depending upon the tolerances required the system could accommodate them i.e. end use)

- With regards to claim 3: Dante et al. in view of Laussermair et al. teach the method according to claim 2. Dante et al. teach the method further comprising extracting identified regions from the digital information, (Dante et al. Column 9 Lines 3 – 23) and analyzing the extracted identified regions with at least one subsequent algorithm to determine which anomalies represent actual defects with respect to the contemplated end use of the web. (Dante et al. Fig 2d, Column 10 Lines 3 – 24)
- With regards to claim 4: Dante et al. in view of Laussermair et al. teach the method according to claim 3. Dante et al. inherently teach the method further comprising storing or buffering the identified regions prior to analyzing. This step is inherent since a comparison takes place between the instant image and the template images, which would require the identified regions being stored or buffered prior to comparison.

- With regards to claim 7: Dante et al. in view of Laussermair et al. teach the method according to claim 1. Dante et al. teach wherein the locating marks are on or adjacent to the anomalies whose position they identify. (Dante et al. Column 10 Lines 32 – 43)

- With regards to claim 8: Dante et al. in view of Laussermair et al. teach the method according to claim 1. Dante et al. teach wherein the locating marks are spaced in a predetermined way from the anomalies whose position they identify. (Dante et al. Column 10 Lines 32 – 43)

9. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dante et al. U.S. Patent No. 5,365,596 in view of Laussermair et al. U.S. Patent No. 6,137,967 as applied to claim 4 above, and further in view of Dalmia et al. U.S. Patent No. 6,259,109.

- With regards to claim 5: Dante et al. in view of Laussermair et al. teach the method according to claim 4. Dante et al. in view of Laussermair et al. fail to teach wherein the stored or buffered information is analyzed after the imaging has been performed on the entire web. Dalmia et al. teach wherein the stored or buffered information is analyzed after the imaging has been performed on the entire web. (Dalmia et al. Abstract, Column 3 Lines 10 – 21) It would have been obvious to one of ordinary skill in the art

at the time of the invention to modify the invention of Dante et al. in view of Laussermair et al. with the teachings of Dalmia et al. This modification would have been prompted to allow for a closer inspection of the web at a slower speed. (Dalmia et al. Column 3 Lines 18 – 21)

10. Claims 22 - 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dante et al. U.S. Patent No. 5,365,596 in view of Laussermair et al. U.S. Patent No. 6,137,967 further in view of Eichel et al. U.S. Patent No. 6,266,437.

- With regards to claim 22: Dante et al. teach a method of marking defects on a web of material having fiducial marks thereon (Dante et al. Column 5 Lines 57 – 68) and applying locating marks to the web identifying the position of a least some of the anomalies, using the digital information and the fiducial marks as a guide. (Dante et al. Column 10 Lines 32 – 43) Dante et al. fail to teach providing the web of material in the form of a roll; providing digital information about the location of anomalies on the roll relative to the fiducial marks; and unwinding the roll. Laussermair et al. teach providing the web of material in the form of a roll (Laussermair et al. Column 3 Lines 41 – 44) and unwinding the roll (Laussermair et al. Column 3 Lines 41 – 44). Eichel et al. teach providing digital information about the location of anomalies on the roll relative to the fiducial marks (Eichel et al. Column 7 Lines 37 – 42). It would have been obvious to one

of ordinary skill in the art at the time of the invention to modify the invention of Dante et al. to include the teachings of Laussermair et al. and Eichel et al. One would have been prompted to include the teachings of Laussermair et al. with the invention of Dante et al. to allow for the system of Dante et al. to print fiducial marks on the web prior to the web being wound and the inspection step occurring. Including the teachings of Eichel et al. would have been prompted to allow for digital markings of defect locations to be used instead of printed markings this would be beneficial to have in the system of Dante et al. since the process of defect detection and inspection is done in a digital environment. The digital location information would allow for ease in re-location portions of the web where the defect was on the threshold of acceptance.

- With regards to claim 23: Dante et al. in view of Laussermair et al. further in view of Eichel et al. teach the method according to claim 22. Dante et al. teach wherein: the web is moved at a speed of at least 45 m/min during the unwinding (Dante et al. Column 5 Lines 28 – 30); and the locating marks are applied to the web within 1 mm of the anomalies they identify. (Dante et al. Column 10 Lines 32 – 40, the locating mark is sprayed on the anomaly or unacceptable image)

Art Unit: 2609

- With regards to claim 24: Dante et al. in view of Laussermair et al. further in view of Eichel et al. teach the method according to claim 23. Dante et al. teach wherein the position of only the anomalies that qualify as actual defects with respect to a contemplated end use of the web are identified with the locating marks. (Dante et al. Column 10 Lines 32 – 43)

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- McKaughan et al. U.S. Patent No. 5,301,129; which is directed to a video web inspection system using thresholds to determine surface anomalies.
- Wolf U.S. Patent No. 4,173,441; which is directed to a system and method for web inspection including scanning means and discriminating means.

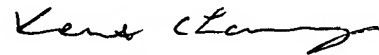
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric Rush whose telephone number is (571) 270-3017. The examiner can normally be reached on 7:30AM - 5:00PM (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chris Kelley can be reached on (571) 272-7331. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2609

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

ER



**KENT CHANG
PRIMARY EXAMINER**